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Patent and Trademark Office

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/389,393 09/03/99 OHTANI

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020985 MM91/0705
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EXAMINER

BAUMEISTER, R

ART UNIT

PAPER NUMBER

2815

DATE MAILED:

07/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/389,393

Applicant(s)
Ohtani et al.

Examiner
William Baumeister

Art Unit
2815



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 24, 2001
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-8, 11-13, 15-18, 20-23, 25-27, and 29-38 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 6-8, 32-34, and 38 is/are allowed.
- 6) ☒ Claim(s) 11-13, 15-18, 20-23, 25-27, 29-31, and 35-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

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DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 12/18/00 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office.

a. Although no Form 1449 was included, the submission consisting of an English translation of JP 06-250,214 has been considered by the Examiner. This document will be listed on the Form 892 attached to this Office Action.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include most of the following reference numeral and character sign(s) mentioned in the description: rather the figures only include a few reference numerals such as 1, 2, 3, and 31-33. Correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 11-13, 15-18, 20, 29, 30, 35, and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Each of claims 11, 15, 16 and 20 recite the limitation "said channel." Due to the amendments to the claim language, there is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Insofar as definite, claims 11-13, 15, 21-23, 25-27, 29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 3-82164. JP '164 discloses a gate-down TFT having a gate composed of an anodizable metal such as Ta (see page (4)/402, upper right hand col.) which is anodized into an inverted T-shape, thereby decreasing the electric field adjacent to the source/drain regions. While the gate appears to be formed of a single material, the enumerated claims, as presently set forth, read on such a TFT wherein the first and second layer of the gate is composed of the same material since the limitations of the respective claims say that both layers

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may be composed of Ta. As such, there is no structural distinction between describing the inverted T-shaped gate as being composed of a single material having regions of differing thickness and as being composed of first and second conductive layers.

a. Regarding claims 11-13 and 15, the reference reads on the embodiments when viewed upside down.

7. Claims 21-23 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee '320. These claims--not possessing limitations directed towards the composition of the insulating film--are so broad as to read on the embodiment depicted in FIG. 7E, when viewed upside down.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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9. At least claim 25 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 15 of U.S. Patent No. 5,973,378. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 25 of the present application--reciting a Markush group of materials from which the gate layers may be composed--is broader than and generic to claim 15 of the '378 patent.

Allowable Subject Matter

10. Claim 1-3, 6-8, 32-34 and 38 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter: it was generally known to provide TFTs having gates composed of multiple layers of anodizable material (e.g., Holmberg et al. '216) and to provide T-shaped and inverted T-shaped gates for the purpose of altering the electric fields &/or capacitance adjacent the source/drain regions (e.g., Satoh '080). Further, it was known to form these gate structures by anodizing all of or a part of the metal which is to become the gate electrode. However, a search of the relevant art failed to disclose such a device wherein the gate is composed of two different materials having differing anodization rates such that upon the anodization thereof the gate forms a T or inverted T with sidewall portions composed of oxides of the respective gate metals.

12. Since allowable subject matter has been indicated, applicant is encouraged to submit formal drawings in response to this Office action. The early submission of formal drawings will

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permit the Office to review the drawings for acceptability and to resolve any informalities remaining therein before the application is passed to issue. This will avoid possible delays in the issue process.

Conclusion


13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Ha '530
- b. Bae et al. '868
- c. Hiroki et al. '047

INFORMATION ON HOW TO CONTACT THE USPTO

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner, **B. William Baumeister**, at (703) 306-9165. The examiner can normally be reached Monday through Friday, 8:30 a.m. to 5:00 p.m. If the Examiner is not available, the Examiner's supervisor, Mr. Eddie Lee, can be reached at (703) 308-1690. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

B. William Baumeister
June 30, 2001


EDDIE LEE
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